

Listing of the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A computer readable medium containing executable program instructions for performing a method on a computer connected to a network comprising the steps of:

receiving network topology information as an input;

receiving network traffic demand information as an input;

constructing a data model of a packet-switched network from the network topology information and network traffic demand information wherein the data model further comprises data objects for network nodes, network links, and for network traffic demands; and

constructing a routing model wherein the data objects for network nodes, network links, and for network traffic demands are utilized to simulate network traffic in the packet-switched network.

2. (Original) The computer readable medium of claim 1 wherein the network topology information is derived from data obtained from an operational packet-switched network.

3. (Original) The computer readable medium of claim 2 wherein the data is extracted from router configuration files.

4. (Original) The computer readable medium of claim 2 wherein the data is extracted utilizing end-to-end query mechanisms.
5. (Original) The computer readable medium of claim 1 wherein the network topology information is derived from a proposed topology design.
6. (Original) The computer readable medium of claim 1 wherein the network traffic demand information is derived from data obtained from an operational packet-switched network.
7. (Original) The computer readable medium of claim 6 wherein the data is extracted from traffic measurements collected at ingress routers.
8. (Original) The computer readable medium of claim 7 wherein the traffic measurements are made between an ingress link and a set of egress links.
9. (Original) The computer readable medium of claim 8 wherein the traffic measurements are collected by associating one or more destination network addresses with the set of egress links.
10. (Original) The computer readable medium of claim 9 wherein the set of egress links is identified by extracting reachability information from network

forwarding tables.

11. (Original) The computer readable medium of claim 9 wherein the set of egress links is identified by extracting reachability information from BGP tables.

12. (Original) The computer readable medium of claim 9 wherein the set of egress links is identified by extracting reachability information from network configuration files.

13. (Original) The computer readable medium of claim 1 wherein the network traffic demand information is derived from estimates of projected network traffic demand.

14. (Original) The computer readable medium of claim 1 wherein the network traffic demand information is derived from customer subscription information.

15. (Original) The computer readable medium of claim 1 further comprising the step of providing an interface to the data model that graphically displays the network nodes, network links and network traffic calculated by the routing model.

16. (Original) The computer readable medium of claim 1 wherein the routing model simulates the OSPF routing protocol.

17. (Original) The computer readable medium of claim 1 wherein the routing model simulates the IS-IS routing protocol.

18. (Original) A method of traffic engineering in a packet-switched network comprising the steps of:

- retrieving network topology information;

- retrieving traffic measurement information;

- constructing a data model of a packet-switched network from the network topology information and network traffic information wherein the data model further comprises data objects for network nodes, network links, and for network traffic demands; and

- constructing a routing model wherein the data objects for network nodes, network links, and for network traffic demands are utilized to simulate network traffic in the packet-switched network.

19. (Original) The method of claim 18 wherein the network topology information is derived from data obtained from an operational packet-switched network.

20. (Original) The method of claim 19 wherein the data is extracted from router configuration files.

21. (Original) The method of claim 19 wherein the data is extracted utilizing end-to-end query mechanisms.

22. (Original) The method of claim 18 wherein the network topology information is derived from a proposed topology design.

23. (Original) The method of claim 18 wherein the network traffic demand information is derived from data obtained from an operational packet-switched network.

24. (Original) The method of claim 23 wherein the data is extracted from traffic measurements collected at ingress routers.

25. (Original) The method of claim 24 wherein the traffic measurements are made between an ingress link and a set of egress links.

26. (Original) The method of claim 25 wherein the traffic measurements are collected by associating one or more destination network addresses with the set of egress links.

27. (Original) The method of claim 26 wherein the set of egress links is identified by extracting reachability information from network forwarding tables.

28. (Original) The method of claim 26 wherein the set of egress links is identified by extracting reachability information from BGP tables.

29. (Original) The method of claim 26 wherein the set of egress links is identified by extracting reachability information from network configuration files.

30. (Original) The method of claim 18 wherein the network traffic demand information is derived from estimates of projected network traffic demand.

31. (Original) The method of claim 18 wherein the network traffic demand information is derived from customer subscription information.

32. (Original) The method of claim 18 further comprising the step of providing an interface to the data model that graphically displays the network nodes, network links and network traffic calculated by the routing model.

33. (Original) The method of claim 18 wherein the routing model simulates the OSPF routing protocol.

34. (Original) The method of claim 18 wherein the routing model simulates the IS-IS routing protocol.